**The promises and pitfalls of biometric security practices in Senegal**

**Introduction**

When arriving in Senegal through Dakar’s Léopold Sédar Senghor (LSS) international airport, a traveller’s first encounter is with a border guard from Senegal’s *Police de l’Air et des Frontières*, who scans their travel document, records their photograph, and takes digital prints of their index fingers. The biographic and biometric information collected at LSS airport is stored as part of a computerized register of entries and exits and verified against local and international databases and watchlists. This system is just one of a rapidly growing number of digital biometrics deployments in West Africa. Niger and Burkina Faso collect travellers’ fingerprints on arrival at their main international airports, as does Mauritania whose visa system is interconnected with its national biometric ID system. Biometric technologies are also increasingly used for electoral registration and have provided the technical backbone for voter registration in Burkina Faso, Benin, Ghana, and Togo. Biometric technologies—which use physiological elements such as bodily characteristics and behaviours for identification and surveillance—are promoted by manufacturers, security professionals, and statebuilding experts as better tying bodies to identities. Spurred on by bilateral security cooperation and a desire to conform to international standards, states across Africa are sparing no expense to adopt biometric passports, ID cards, and visas, as well as national biometric enrolment. For instance, South Sudan’s biometric passport issuance system, launched in 2011, has cost an estimated €20million (Markó 2016) in a context of scarce foreign currency and low social spending. This slick digital present also has roots in an analogue colonial past, which includes the fingerprinting of ‘suspect’ communities in South Africa in the early 20th century (Breckenridge 2014), the *kipande* fingerprint ID card in colonial Kenya, or the *carte d’identité* which policed movement in French colonial West Africa (Gary-Tounkara 2009). Despite these economic and historical burdens, biometric security is on the march in West Africa.

This article interrogates the adoption of biometric border security technologies, using the case of Senegal, through two research questions: a first on the social relations and knowledges that underpin them, and a second on what the gap between these ideals and biometrics’ everyday functioning reveals. First, this article asks what claims are made by international and local security actors about the effectiveness of biometrics for border security, and how these actors facilitate the assembling and circulation of these claims. In order to understand the growing use of biometric technologies in West Africa, we should be attentive to the social world of the (in)security professionals who make these technologies thinkable and doable. I understand this ‘field’ in the same vein as authors such as Bigo and Tsoukala (2008), who use the term to account for the polyvocal nature of the production of knowledge about security threats. The appeal of biometrics for border control and national identification in Senegal is driven by security professionals’ promotion of a biometric ‘ideal’ that promises greater legibility of mobility as well as symbolic modernity to countries that adopt them. This ideal is transmitted through the growing imbrication between Western security professionals and their African counterparts: the former drive to implement global standards while the latter buttress their position through the adoption of modern, integrated security solutions. Conceptually, the article draws on work on ‘the field of (in)security professionals’ to argue that the biometric ideal circulates through a multi-sited and multi-functional social space that includes international organization staff, local law enforcement agencies, street-level bureaucrats, and European interveners. Bigo and Tsoukala refer to (in)security itself as the product of the “set of interactions and contradictory goals, interests, norms and habitus” (2008: 4) between such actors. In short, the production of security and insecurity is about the individual trajectories of security professionals but even more about the struggles between them over what is to be secured and how. Building on this, the article argues that sites of professional and expert interaction within this border control community—like workshops or trainings—are crucial social spaces in which this knowledge transmission happens.

Second, this article asks how far the practical use of biometrics for border security lives up to the promises and claims of the biometric ideal that drives demand for these technologies. While the rich and vibrant literature on biometrics has paid considerable attention to the promises and pitfalls of biometrics, there has been very little work on how this happens outside Europe and more specifically in West Africa. This is a particularly important empirical focus which, in a country like Senegal, shows us that biometrics deployments are spawned by radically different security relations and fail for reasons specific to the local context. These elements of success and failure of the biometric ideal make four key contributions to the literature on biometrics. First, they highlight the relative importance of the politics of cooperation and intervention in the rollout of biometrics in West Africa. Second, they show us the role of the private sector in making biometrics possible in West Africa but also hindering attempts to link systems up. Third, this article shows the importance of the symbolic element of biometrics as tokens of modernity and the role this symbolism plays in generating demand for them. Fourth, we see that that dynamics of securitization behind biometrics are often the result of backstage technical and expert work, rather than popular or discursive appeals.

The article proceeds in five parts. The first details the ‘biometric ideal’ with reference to its promises of legibility and modernity. The second section draws on the idea of a field security professionals and expands on its methods of transmitting the biometric ideal, and their limits. The third section focuses on Senegal’s airport entry-exit tracking system and how it is undermined by incomplete connection to global systems and the persistence of analogue solutions. The fourth section suggests that Senegal’s national biometric ID card epitomizes the failure of the promise of integration mainly due to the role of the private sector. The fifth and final section is on Senegal’s biometric e-passport and now-defunct biometric visa, the rollout of which is driven by emulation of global security norms but undermined by the economic imperatives of quickened mobility and tourism. These case studies draw on three months of fieldwork in Senegal which included participant observation at Dakar airport as well as semi-structured interviews carried out across the range of actors shaping the rollout of biometrics: in the field of law enforcement but also with technicians and European diplomats. This fieldwork—and this article—are underpinned by an international political sociology method “focusing on the system of policies, practices, and discourses that govern particular intersections of the local, national, and global” (Salter 2007: 49). As such, the article’s rationale for the selection of cases hones in on these particular sites of practice—that is, specific projects and technologies in Senegal—in which we can observe the practices and struggles of the professional community arising around biometric security. In each of these projects, we see similar sources of failure: contestation within the security field, technical glitches, the persistence of analogue practices, and tension between public and private actors.

**The biometric ideal**

There is now a vibrant literature on biometric technologies in international politics, which pays particular attention to their role as security devices at borders and beyond. This literature has dissected the forms of governance that biometrics incarnate, such as Ajana’s (2013) work on biometrics which sees them not only as a form of governance of bodies but also as a means of regulating a new form of neoliberal ‘biometric citizenship’. In similar vein, Bonditti (2004) sees biometrics through a Foucauldian lens, focusing on a turn to ‘traceability’ of bodies, while Epstein (2007) considers the type of guilty subjectivities governed by biometric borders. All of these contributions see an in-built promise or purpose to these technologies: building on the idea that the body can ‘speak’ and be a source of data, biometrics have been analyzed through the prism of how they disaggregate the body itself into information (Van der Ploeg 1999) and how they fit into the broader turn towards data and algorithms as border control technologies (Amoore 2006, Muller 2010). All of these contributions have come to the conclusion that biometrics—and the security actors who want them—are dependent on, or bearers of, understandings of what border security should look like. These contributions to work on biometrics have undoubtedly driven the research interest and questions this article poses. Yet few segments of this literature have considered two aspects that an analysis of security practices in West Africa yields. First, we do not know much about the contours of the transnational inflections of security practice emerging with around these technologies, nor how knowledge about biometrics circulates to security professionals outside the West. Some contributions on biometrics have looked beyond the West, focusing on the Unique ID system in India for instance (Jacobsen 2012, Thomas 2014), but most contributions in this field are focused on Western-specific experiences, notably the Europeanization of security fields (Broeders 2011) and biopolitics in advanced liberal societies (Pugliese 2010). Second, we do not know enough, in light of the tremendous uptake of biometrics for border security in Africa, about the particular local inflections of failure these deployments present in contexts such as Senegal.

The appeal of biometric technologies to security professionals in places like Senegal rests on the labour of a transnational community of professionals who shape a ‘biometric ideal’ specific to states in the global south. The biometric ideal is a set of knowledge claims about the effectiveness and symbolism of biometrics that circulates through the interactions of international (usually European) and West African security professionals. There are two key elements of this ‘biometric ideal’. The first is the promise of *legibility* of populations both within the state and of those who cross it. This idea drawing on the work of James Scott (1998) captures the state’s desire to not only know but also to better record and analyze information about mobile populations. Activities aiming to buttress the state’s ‘infrastructural power’ (Mann 1984)—the use of bureaucratic and technocratic rather than despotic forms of state power—enhance this ability to make legible. This includes international interventions around border control such as police training and capacity-building, which are increasingly common in Senegal (see Sandor 2016). Legibility through biometrics at the border furthers the ‘polysemic’ nature of borders, a term Étienne Balibar uses to describe how “borders never exist in the same way for individuals belonging to different social groups” (2002: 79). In this sense, the ideal is of a border whose functioning is selective, but also one whose filtering is increasingly ‘smart’ and efficient. Biometrics are held up as tools to better identify who is ‘out there’, and to provide better information for the state to make decisions about admission.

This ideal of biometrics as a technology of legibility makes a selling point of their ‘smartness’ or ability to ‘smartly’ help make decisions at the border. This element is promoted by the biometrics industry writ large and by the professionals of security who implement these technologies. As Feldman (2011) notes, biometrics operate in a double sense to both simplify judgements about travellers’ identities whilst also stratifying global mobility along wealth lines. This ‘smartness’, in turn, positions biometrics as tools working towards a neat, frictionless governance of mobility. The literature generated by those who govern global migration in support of this hope reflects this linkage between smartness and efficiency. The International Civil Aviation Organization (ICAO)—which pushes biometrics due to its role as a global regulator of civil aviation—encourages these technologies through the logic of efficiency, claiming that:

The ability to identify rapidly and precisely "problem cases" allows governments to spend their always-limited border control and law enforcement resources on those who should be given a more detailed inspection. That efficiency also reduces the need to hire additional government personnel and facility costs. (ICAO 2010)

The ICAO’s MRTD Report, a quarterly magazine largely aimed at a tight-knit community of travel security, aviation, and border management professionals, reinforces this trope of ‘efficiency’ in its reader. In its very first issue (2006) an advertisement for ViiSAGE, a US-based firm selling document readers, asks “Do you know who’s traveling?” in an ad for its passport chip-reading scanner. In similar vein, a full-page ad for Gemalto in volume 2, issue 1 (2007) asks “Who’s behind?” above a picture of a passport behind handed from border guard to traveller, both of whom remain unseen. The MRTD Report’s content sells the idea of biometrics as proving the credibility of travellers, but also that of states: the ‘you’ targeted by the advertising is the globally mobile border security professional who, competing for limited resources within their state security apparatus, can justify their acquisition of technology as a reliable and efficient means of boosting the state’s ability to see and control flows at borders.

The second element of the biometric ideal, the promise of *modernity*, is closely linked to the first and is at once a source of prestige and a technical achievement. Modernity here stands primarily for the sense of symbolism that comes from the adoption of high-technology solutions (such as biometric visas with real-time security screening) but also from the achievement of locally and internationally integrated security systems. For instance, officers from Senegal’s *Police de l’Air et des Frontières* are keen to stress examples of data from border posts facilitating criminal investigations, and take considerable pride in the inter-linkage of local data solutions with international databases such as Interpol’s. Many Senegalese security actors pursue the symbolic modernity afforded by digital biometrics, and relish (and are promised) the possibility of integrating their security systems into global (read ‘Western’) arrangements. There is also a developmental element to this modernity, which aims at the reduction of inefficiencies within the state itself. The World Bank’s Digital Identity Toolkit (2014: 2) for Africa claims that developing countries “lack robust identification systems” which leads to “inefficiencies in the way the government and firms interact with the population”. These claims are reprised in the work of development think tanks like the Center for Global Development (CGDev), whose *Identification for Development: The Biometrics Revolution* report refers to an “identity gap” (Gelb and Clark 2013: 8) to describe how the lack of identification hampers government service provision. The drive towards a biometric state with integrated and efficient systems represents, to those who buy into the biometric ideal, the fulfilment of a promised radical technical break from the inefficient past. This, of course, is just a promise on the part of those whose work it is to create and transmit the biometric ideal. This is the world to which I turn in the next section.

**Security professionals and knowledge transmission**

To transmit the biometric ideal is therefore to transmit promises about the state’s ability to secure, and how it should do so. Who does this knowledge work, and how do they do it? Critical security studies—building on a renewed emphasis on practices and the transnational nature of security— has increasingly focused on understanding security with reference to the social spaces of the actors who frame it. The attention to this social element of security has provided a means to identify and understand the trajectories, knowledges, and interactions of those who enact security practices. In this case, we can draw on this approach to understand the relations between those who make biometrics both a think-able and a do-able security technology. Work on ‘security professionals’ has considered these social spaces through the analytical category of ‘fields’ of practice, focusing on the role of law enforcement, intelligence, and national security actors in framing security threats and their use of expertise to shape efforts to block them.

Security professionals, according to Didier Bigo, are “invested with the office of defining and prioritizing threats”, a process which depends on the “ethos of shared knowledge” (Bigo 2002: 74). In this article I argue that the transnational social space in which these security professionals operate is best understood as “a field crossing the internal and external, a new generative space of struggles between security professionals that produces common interests, an identical program of truth and new forms of knowledge” (Bigo 2008: 17). Assuming that the field is a set of routinized social interactions, we should understand (in)security as “a field effect and not the result of a specific strategy of a dominant actor” (Bigo and Tsoukala 2008: 5). As a result, the production of security is polyvocal, relational, and processual. It is noteworthy that Bigo considers this approach particularly suited to a world in which internal and external security are blurred — one in which we might see French police officers advise Senegalese border police on containing internal and external threats. It is important to note, however, that Bigo’s own use of these terms is as “thinking tools” used to account for a “diversity of practices” (2011: 237). As such, they are also flexible and open to the challenges of examining the social world of security outside the relatively EU-centric genesis of critical security studies. In fact, examining the ways that a transnational field of security professionals emerges around the ‘biometric ideal’ requires a greater degree of attentiveness to the specificities of the interaction of north and south. The relationships within this field are — between global and local — far less competitive as they are marked by an emphasis on cooperation and capacity-building intervention. In addition, relations within local fields of security (i.e. within Senegal) may be stronger than within the transnational field of security professionals in which meetings may be limited to occasional workshops or expert symposia.

The biometric ideal is not always a public-facing form of security appeal, and is produced and transmitted in a manner akin to what Salter (2008) calls a ‘backstage’ securitization. The audience of security politics may in fact be more limited than we imagine: in some cases, security professionals transmit their knowledge to others within their field or profession in narrowly technical or bureaucratic settings. The biometric ideal, as a set of claims about security threats and what is needed to block them, circulates in just such ‘backstage’ settings most of the time. The role of private companies in this transmission is also subject to this backstage logic of professional networks, with contract attribution processes and product marketing trade shows both open to the field of security professionals but closed off to the general public.

One of these backstage forms of transmission for the biometric ideal is the role of technical standards. This is something that Walters has brought attention to, using the concept of ‘technological work’ (2011) to capture the technical and intellectual effort that goes into making infrastructures carry out security practices. A reflection of this work at the transnational level is the role of the ICAO in not just setting policy but also recommending technical specifications for the adoption of biometrics, a type of technological work that sets it up as one part of the field of security professionals around the biometric ideal. Its Document 9303 on machine-readable travel documents (MRTDs) and electronic MRTDs sets the standards for when and how states are to move towards passports featuring biometric information (ICAO 2015a). These specifications are developed in part by the Technical Advisory Group on Machine-Readable Travel Documents (TAG-MRTD) composed of 18 ICAO states and a New Technologies Working Group (NTWG). It is noteworthy, however, that the current ICAO standard is not digitalbiometry but simply machine-readability of a document, which can in theory be limited to a simple optical scan of the 88-character strip at the bottom of the passport’s photo page. However, digital biometric information (usually stored on a chip in the passport) has come to be an unofficial ‘standard’ through international pressure and the exemplar of western states. It is noteworthy that most Senegalese security professionals and their equipment providers, in their deployments of biometric technologies, officially reiterate the importance of conformity to ICAO standards. These standards, in turn, directly feed into the governance and control of mobility at the border.

The transmission of the biometric ideal is undertaken at the level of cooperation and intervention between experts from global north and global south. In Senegal, French bilateral security cooperation is particularly dominant, but Spain is increasingly active in shaping the local security agenda on migration issues. Officials like *attachés de sécurité intérieure* (interior security liaisons) play a key role in implementing programs that include biometrics, or set the agenda in their interactions with local bureaucrats, police officers, and gendarmes. Routine practices such as biweekly coordination meetings between Western embassies’ security liaisons play a crucial coordination role in framing the ‘international’ perspective on border security. Under the French ASACA (*Appui à la sûreté de l’aviation civile en Afrique*) airport security capacity-building program, immigration and security experts (*conseillers sécurité immigration*) shortlisted by France are implanted in intervened states’ ministries of interior as border management consultants.[[1]](#footnote-1) Similarly, the ICAO runs gap assessment missions as part its Traveller Identification Programme (TRIP). This program, funded by the Canadian government, held assessment missions in Costa Rica and Honduras in 2013 and 2014 respectively (ICAO 2014), and more recently in Niger in January 2015 as part of the ‘Sahel and Neighbouring States’ facet of the project (ICAO 2015b). These knowledge-generation and sharing practices, which almost always operate behind closed doors, put forward both an image of borders (as identity managers) and how to control them (through technology and integrated systems). These practices also generate demand by raising awareness amongst local security elites and signalling best practices. It is noteworthy that trainees are often brought outside their home country for training, to prevent their everyday routines (work and family life) getting in the way of their acquisition of the requisite airport security skills. Study tours in French airports—which have a similar institutional setup to francophone African countries’—are frequently used as means of experiential learning for Senegalese police trainees.[[2]](#footnote-2)

Expert meetings and workshops are key spaces in which the transmission of the biometric ideal happens. The ICAO has been instrumental in bringing together security professionals to share a common agenda. The International Organization for Migration (IOM), an intergovernmental organization dedicated to all aspects of migration from border security to resettlement, has also urged states in West Africa to adopt biometric technology as an answer to the question of weak border security. Both organizations have regional offices in Dakar, and carry out training and capacity-building activities across the region. The ICAO Regional Conference on Aviation Security was held in Dakar in October 2011 (ICAO 2011) and Senegalese police officers have participated in ICAO trainings on airport profiling, for instance. The IOM has sought to position its own entry-exit tracking system as a low-cost alternative to expensive privately marketed immigration management systems and provided workshops on fraudulent document detection for the Senegalese police.[[3]](#footnote-3) Other examples of these social spaces of knowledge transmission include the ICAO’s MRTD Regional Symposia, where key actors coalesce around common views of how borders (and travel documents) are to function. This is akin to the ‘workshopping’ approach common in the development industry which facilitates getting actors in the global south on board with the importance of traveller identification.

Finally, it is important to acknowledge the importance of local agency in the transmission of ideals about biometrics. Senegalese security professionals—like many of their counterparts in the region—adopt these technologies as a means of ensuring conformity to what are perceived as ‘global’ standards. This is not to suggest a ‘copycat’ mentality, but rather to point out that claims to modernity are often made relative to the states that are considered leaders in the field of border security. This can in some cases refer to Western states (notably the USA and France), but many in the field of border security in Senegal also consider Mauritania to be a regional border security leader worthy of emulation. Perceptions of what are truly ‘global’ standards are also shaped by perceived expertise: while Spanish expertise is highly regarded in terms of reducing irregular migration, French expertise triumphs in the context of airport security due to a similar institutional setup (evidenced by the shared *Police de l’Air et des Frontières* moniker for their border police forces). The case of the biometric visa is particularly pertinent in this case, as Senegalese police justified it in relation to the visa policies of EU states specifically. Local agency is key not just to the biometric ideal but also to the *malleability* of this ideal: local law enforcement, airport authorities, technologists within African ministries of interior, and local political actors all have habits and registers in which they frame their work, and personal trajectories that eliminate any pretension to smooth transfer of ‘international standards’. In the next section, I suggest that the biometric registration of passengers at Dakar’s main airport is one such site in which we can observe the failures of the biometric ideal to live up to its own terms.

**Tracking and tracing at the airport**

In Peter Adey’s words, we “learn useful lessons at airports” (2002: 501) about security and the ways mobility is sorted and controlled. Indeed recent work on border security has taken the role of airports seriously as sites for the analysis of security policies. For instance, Salter describes the airports as places that “represent the policing power of the sovereign state, that contain the dangerous or risky elements of the unknown, and that render certain mobilities visible and others impossible or invisible” (2007: 53). Brenda Chalfin’s work on Kotoka International Airport in Accra seeks to understand “how the aura of sovereign intimacy is sustained and internalized by those actors considered to be its source and its object” (Chalfin 2010: 193-194). Leese (2016) argues that airports are increasingly subject to the efficiency-driven managerial logics of the private sector. The airport is therefore a microcosm of the heterogeneity of borders and the ideals that go into securing them. In the case of Dakar’s airport, the use of biometrics is intended to push towards the efficient movement of travellers, and testifies to the integration of Senegal into global security practices. Despite this, specifics of local practice—its status as a privileged border point and the technical limitations of its systems—undermine the claims of the biometric ideal.

On arrival at Dakar’s LSS airport, travellers immediately come face to face with biometrics, and registration of travellers begins with the scanning of their travel documents. The Senegalese police have electronic document readers which scan the machine-readable zone of travel documents. After this, a still image of the traveller is taken via the webcam which sits in the border guard’s booth, and the traveller is then asked to provide her right and then left index fingerprints on the scanner. Traveller records are integrated, and each entry or exit can be visualized in the police’s system as an individual ‘transaction’, which is held in a police database on-site. When I asked to view my own records, I was able to see my photo, citizenship, fingerprint image, flight numbers, and dates of entry and exit, all from a simple search by surname. These ‘transactions’ of biometric registration are part of a broader comprehensive security system in the airport, the *Système Intégré de Contrôle Migratoire* (SICM), provided by US-based Securiport LLC.[[4]](#footnote-4) In addition to the biometric registration of travellers, the SICM also manages video surveillance of the airport grounds. The imperative to capture and record data is one element of the drive towards a border that is not only intelligent in terms of what information it can capture, but also able to filter this information. This enables the triage of passengers as well as data analysis techniques: when a Senegalese national was able to fly to Washington DC without proper documentation, the US authorities were able to ask Securiport to reconstruct the trajectories of both passengers, using data from the system in Dakar, and identify the passengers (Securiport 2014). The biometric ideal of borders as intelligent tools is effectively implanted here, even though the Senegalese authorities were left red-faced by the relative weakness of their *exit* controls.

One of the elements of the biometric ideal is the promise of global interconnection and the implementation of internationally recognized security procedures. The SICM enables Senegal’s integration into global security arrangements at a very practical level, by being connected to Interpol’s database of Stolen and Lost Travel Documents as well as the I-24/7 database which allows Senegal to receive ‘red notices’ from Interpol for wanted persons. In this case, it is the security tool itself that silently facilitates the transfer of a culture of database-driven verification and authentication. Any flag raised by the system shuts it down and requires a supervisor override. The supervisor—a more senior police commander—manually examines every flag and can override the system in cases of erroneous identification. In addition, the system is integrated with local databases held by the police and gendarmerie stipulating who is prevented from leaving the national territory.[[5]](#footnote-5) This system’s global interconnections and attendant practices are a source of considerable pride within the Senegalese security field. When I spoke to the police commander in charge of security procedures, he mentioned the speed with which data retention and information-sharing facilitates cooperation between the police and *Gendarmerie Nationale*, making it easier to arrest locally wanted suspects whether or not they were in the Interpol database.[[6]](#footnote-6) This illustrates the inculcation of practices of inter-agency cooperation that feature in training meted out to Senegalese officers by international interveners such as ICAO, IOM, and the UN Office on Drugs and Crime (UNODC).

Senegal’s entry-exit system is shaped by growing aviation security intervention in the country in which Western security professionals push for what they deem to be ‘smarter’ borders and ‘smarter’ border guards. These interventions are key ways of transmitting ways of approach biometrics and are most often led by European security professionals under the guise of capacity-building. For instance, a French-funded modernization programme aimed at the Senegalese police (*Appui à la modernisation de la Police sénégalaise*) has provided €700,000 for an assortment of activities: training of prosecutors, equipment donations to the drug squad, but also the provision of equipment and training at the airport to improve ‘prevention’. Prevention of cross-border crime and irregular migration function in part by trying to make the border ‘smarter’ and more efficient. The presence of immigration liaisons (*conseillers sécurité immigration*)—shortlisted by France but chosen by the host government—is one such way to ensure a friendly voice for the cause of ‘smarter’ borders within the local government as it shapes its border security policies. These *conseillers*’ presence is no secret yet their advisory role on border security threats and practices remains firmly in the ‘backstage’ of bureaucratic politics. While the ideal of entry-exit biometrics as a ‘modern’ solution for prestige is shared by European and Senegalese security professionals, the former tend to believe there is little point in gathering data if there is no emphasis on the *analysis* of data on which better filtration rests.[[7]](#footnote-7) The meaning of the much-vaunted smartness of borders is itself subject to the polyvocal nature of the security field. There is also a need to make the border guard herself ‘smarter’, and Western interveners put great effort into ensuring, for instance, that border guards at LSS stay in post long enough to internalize key practices of airport security,[[8]](#footnote-8) but this aim is often frustrated. This also includes trialling new biometric approaches centred on profiling arriving passengers’ behaviour and body language, promoted by the ICAO, even though there is a cultural perception on the part of Western officials that African airports may be too ‘stressful’ as a baseline for such practices to be effective ways of screening risky bodies from safe ones.[[9]](#footnote-9) This practice does have some approval in the local context, with a Senegalese police official telling me that biometrics cannot signal a person’s intentions, so there is a need for such profiling.[[10]](#footnote-10) This is underpinned by an understanding of the airport as a ‘laboratory’ of border control, where new practices can be tested in a relatively controlled environment. This emphasis on speed and efficiency comes from the prioritization of the *flux rapide* (a quick flow),[[11]](#footnote-11) showing how Scheel’s (2013) observation that biometrics link together technology, security, and freedom of movement applies in the non-Western world.

Technical failures underline the pitfalls of implementing the biometric ideal in West Africa. Although the Senegalese border police does collect biometric information from passengers, the optical reading and ultraviolet light equipment at the border does not allow the reading of the more securely stored (encrypted) biometric information found on a passport’s microchip. This information should also be compatible with the ICAO’s Public Key Directory, which is this organization’s means of fostering international collaboration on passport security through the proliferation of a common technical standard for reading encrypted information (ICAO 2015c). These keys for decoding are the backbone of biometric systems, as they are the necessary supplement for one state to read another state’s biometric documents, yet Senegal is not yet an implementer of this single standard. Through the collection of biometric data, Senegal participates in the biometric ideal but by not verifying it, is not completely integrated into one of the technical backbones of the global airport screening system. In this case, Senegal’s entry-exit system is symbolically integrated to global security systems but is not practically, at a technical level, reaping the enhanced legibility that is integral to the biometric ideal.

Finally, one of the key elements of biometric screening is its digital nature, yet the entry-exit system at Dakar airport is marked by the persistence of paper solutions, and Senegal’s other borders are generally run with analogue solutions. While more senior Senegalese police officials dismissed the utility of paper landing cards, street-level officers actually preferred analogue techniques: many I interviewed lamented the decision to do away with these paper visitor landing cards, as these in the past provided an important backup for officers who forgot to save traveller transactions in the SIGM. Indeed, given the strict punishments meted out by the border police for forgetting to register travellers, the paper landing cards functioned as indirect guarantees of job security. Bonelli and Ragazzi (2014) discuss the use of papers, files, and memos in the French intelligence service, pointing out that these represent the persistence of a particular way of doing security work on the part of intelligence professionals. This is one of the elements that also reflects how divergences between actors who compose the field of security itself can undermine the best laid plans. In Senegal, the upper/lower levels of the police align along the digital/analogue split visible at Senegalese border posts: at most posts, Senegal still uses paper registers for the recording of entries and exits into the national territory. This is especially cumbersome for customs officials based outside of the capital who, as I observed, mostly do not have computer or internet facilities and must rely on paper documents and personal wireless internet sticks.[[12]](#footnote-12) In the next section, I turn to national identity papers and how these succeed and fail to enact biometric border security away from the border.

**National identity structures**

One of the key elements of biometric border security is the adjudication of citizenship and non-citizenship, which is managed through systems such as national identity cards. Ajana points to the two-way interlinking of biometrics and citizenship/nationality, noting that “biometric systems are becoming symptomatic and constitutive of the ongoing mutations that are taking place within the rising forms and practices of citizenship” (2012: 852). The biometric ideal rests on an optimistic view of this relationship between biometrics and belonging, which assumes that integration of identification systems leads to more efficient determination of who can enter or not, or who is entitled to the rights of citizenship. Indeed, the ideal that efficiency is itself a relevant phenomenon to citizenship illustrates the degree to which citizenship is reframed by biometrics as a question of either *access* or *exclusion* (see Muller 2010). Senegal’s latest biometric national ID, launched in 2006, exposes these political limits of biometrics for border control and in particular the failures that come with private sector involvement in biometrics. While the *carte d’identité* is a standard feature in most francophone African states, the move towards biometrics in the card has been significant for what it promises but also what it reveals about the social world of security in the country.

The national ID card is unable to fulfil the biometric ideal of symbolic modernity through better integrated systems. This system reflects what Martin, Van Brakel and Bernhard (2010) refer to as resistance from ‘artefacts’. They argue that “apart from the potential to breakdown or fail, the absence of technologies capable of fulfilling a desired surveillance mission is as effective a resistance mode as legislative or executive modifications to the intended scope of surveillance” (2010: 224). While the ID card system is housed in the ministry of interior, it is not connected to other systems within the same ministry that exist for the same purpose of making populations legible. For example, the Senegalese police’s $1.15million criminal fingerprinting program, provided as a gift by the US Embassy in Dakar on behalf of the US military’s Africa Command (AFRICOM). This tool was justified by the regional security context, to be used as a tool to fight against drug trafficking and terrorism (US Embassy Dakar 2011: 3). Even though this AFIS system was provided as a capacity-building tool to improve identification, and is housed within the same ministry, the data does not travel. In this case, data remains in siloes and subject to the tensions inherent to the struggles within the security field. The claim to a fully integrated ‘biometric state’—which is something my interviewees in the Senegalese *Police de l’Air et des Frontières* tended to support—is held back by the limited coordination of biometrics within the public sector. While there are some highlights of how the ID card has lived up to the ideal of legibility—such as the identification of people admitted to hospital without ID—the ID card is an island in a system that begs for integration. While there are linkages between the biometric national ID card issued by the police’s *Direction de l’Automatisation des Fichiers* (DAF) and the databases of foreigners at the *Direction de la Police des Étrangers et des Titres de Voyage* (DPETV), this latter system is not linked to the register of foreigners or to the passport databases at the ministry of foreign affairs. As a result, the ID card’s promise to ‘border’ citizen from non-citizen remains tenuous.

Senegal’s national ID system creates a rift between the state’s pursuit of integrated biometric systems and private companies’ desire to distinguish their products. Here, even the best laid plans and intentions fall by the wayside. Securiport, the company which runs the airport security system, including biometric scanning, does not communicate with UK-based DeLaRue even though this company runs the database for the national ID card (which doubles as a travel document within West Africa). This is due to incompatible and proprietary biometric algorithms used to decode and recode the biometrics they collect. The justification for such disjuncture is at first glance technical: competing algorithms for coding biometric data make this data incompatible. However, algorithms are also a matter of professional secrecy and a key selling point in the competitive private sector biometrics marketplace. Securiport has tried to decipher DeLaRue’s biometric algorithm and failed, something that the latter takes as validation of the strength of its system. This private sector competition is due to the fact that, according to my interviews with high level officials in Senegal, border controls and electoral identification are the two most vibrant private sector markets for biometrics manufacturers.[[13]](#footnote-13) In this context, the profit motivation and the desire to assert expertise (which yields symbolic and economic capital) are essential yet they undermine the state’s security actors from running a visibly modern, integrated system. It is one of the ironies of the biometric ideal that the implementation of digital biometrics can economically gainful yet to the detriment of its own promises about better security.

While public-public and public-private integration are subject to failure, Senegal’s biometric national ID card does facilitate smooth international-local integration. According to interlocutors in the ministry of interior, information from the database is used by foreign embassies in Dakar, which means the data must be relatively complete and which furthers the culture of verification and authentication around borders.[[14]](#footnote-14) Other users of the ID system include UNHCR, which requests information to check the veracity of refugee requests, and EU election monitors, who audit the ID system in its capacity as the register of electors.[[15]](#footnote-15) This national identity card also fits into a broader context of thinking within the fields of security that criss-cross West Africa. In this context, IOM proposals for new resident card along the Senegal-Mauritania border build on the use of the national ID card.

Finally, much like the case of the entry-exit system at Dakar airport, Senegal’s national ID card is beholden to the persistence of analogue solutions that frustrate the biometric ideal of ‘legibility’. The amount of information in the biometric system is dwarfed by what is provided and kept on the original paper application forms, which are kept by the ministry of interior. In addition to this, Senegal’s paper-based document issuance system—especially in the case of birth registrations—means that the ‘breeder’ documents that demonstrate eligibility for the biometric national ID are easy to falsify and difficult to verify. In the final section below, I discuss the endogenous nature of elements of the biometric ideal as well as the limits of a security framing in shaping the appeal of Senegal’s biometric visa.

**Passports and visas**

Passports and visas are crucial to the global mobility system, determining rights to access and vouching for citizenship and permissibility. Visas are a “necessary supplement to the passport system” (Salter 2006) and effectively delocalize the border function inward (to verification systems) as well as outward (to points of issue), and are a central part of the facilitation of global mobility. As Shamir (2005) points out, visas are essential profiling tools that have become increasingly data-driven and increasingly rely on “technologies of examination that are by far more sophisticated than the impressionist judgments of police officers and security guards” (212). In this section I argue that beyond inscribing sovereignty on the bodies of citizens, these technologies facilitate claims to modernity and prestige in the security field and inculcate the polysemic nature of borders. However, in the case of the biometric visa specifically, biometrics face contestation due to the slowing effects they have on desirable types of mobility.

In 2008, Senegal launched its biometric passport and in 2013 confirmed it would be using biometrics in its new visa. The need for a retooled visa was brought about by the then ‘reciprocity’ policy, which meant that any state requiring visas of Senegalese citizens would have its own citizens subject to a visa requirement to enter Senegal. The rollout of the biometric visa was driven by a desire for pre-emption on the part of political actors and the higher levels of the *Police de l’Air et des Frontières*. The upper levels of the Senegalese police considered biometric screening to be a means of better profiling travellers as well as overcoming the “randomness” of existing approaches.[[16]](#footnote-16) The biometric visa also aided the pursuit of a comprehensive view of who was in the country: in order to issue visas within 48 hours, the border police’s territorial surveillance directorate (DST) in Dakar had access to real-time data from visa applicants in Senegalese embassies across the world. This screening process, however, was significantly undercut by the informal crossing procedures that persist at most land border crossing points, which includes allowing citizens of neighbouring countries to ‘deposit’ their ID card at the border post when visiting Senegal for daily errands. Nevertheless, the police command considered the biometric visa an essential token of “modernity” whose adoption largely went without saying.[[17]](#footnote-17) This reframed debate about the visa from a political one (about what type of border control was best) towards a technical one (about whether the visa was more efficient or not).

The biometric passport and visa are notable for being local technologies in their conception. While the exemplar of conforming to ICAO standards is powerful, the Senegalese biometric passport was *not* spearheaded from outside, but rather by a particularly technologically keen commissioner of police in 2007. This particular commissioner was brought into the police for this project from a previous job in IT. While the passport is considered a ‘sign of modernity’[[18]](#footnote-18), its rollout was unrelated to the pressures for international link-up that have been exerted in the cases of airport biometrics and the national ID card. In the case of the biometric visa, the justification for its use testified to the postcolonial logic inherent in the policy of visa reciprocity: that in a world in which formal political equality is underpinned by state sovereignty, operating on an equal footing with Western states requires the assertion of the rights to sort and filter citizens’ rights of passage in both directions.

The infrastructure behind the biometric passport and visa draws equally from the private sector and from overseas expertise, much to the discomfort of local security professionals. The Senegalese police’s upper echelons expressed concerns about the visa being subject to commercial considerations.[[19]](#footnote-19) Although these doubts about the attribution of the contract and data management to foreign companies lingered, the supposed technical benefits of the biometric visa were never in doubt. The company charged with administering visa issuance was the Côte d’Ivoire-based SNEDAI (the *Société Nationale d’Édition de Documents Administratifs et d’Identification*), and the biometric visa made SNEDAI into a major actor at the border posts through its donation of 10 patrol vehicles to the Senegalese police (AllAfrica 2013). SNEDAI deployed equipment by Belgian ID card maker Zetes to Senegal’s border posts, some of which were newly built. Zetes provided the enrolment kits to Senegal under a 5-year ‘build, operate and transfer’ (BOT) contract for 66 enrolment stations, the technology to individualize biometric records, and the installation of a payment system through its subsidiary FasTrace for 300,000 visas per year (Zetes 2013). The biometric visa enrolment machines used featured fingerprint sensors made by US-based Lumidigm. This variety of private sector actors made the project feasible but also created tension within the world of public sector security professionals.

These efforts towards better legibility and efficient filtering at the border are generally lauded by Western security professionals in Senegal. Western officials interpreted the creation of a fraud bureau in the heart of the Senegalese police as a sign that document security had “entered the habits” of Senegalese security officials.[[20]](#footnote-20) It is a mistake, however, to assume that Senegal’s efforts towards achieving a biometric ‘ideal’, through passports and visas, are always met with cheers from security professionals from the global north. Many of those based in Senegal as liaisons express a *suspicion* of biometrics and consider these technologies to actually entrench a status quo in which there are many fraudulent documents around—including many of the ones on which biometric documents rest. There is also an element of disagreement between global and local security professionals with how this technology is meant to be used. Western security actors deployed in Senegal tend to resent the deployment of biometrics for their own sake, and many of my interlocutors were keen to point out that this technology are no use unless local practice could ensure that proper *procedures* were followed.[[21]](#footnote-21) In the words of one European diplomat, the technologies themselves are nothing without the right political and infrastructural systems in which to frame them.[[22]](#footnote-22) This suggests a fundamental clash between two cultures of security: interveners seeking to reshape security practices and a local security field focused on the symbolic and technological gains of implementing digital biometrics. While the rollout of biometrics is a source of the kind of ‘shared knowledge’ that Bigo identifies as a characteristic of security fields, there is disagreement over what precisely is the successful use of the technology. Many of these contentions over the meanings of security and the use of technology are ironed out in the workshops and bilateral meetings that define global-local border security cooperation in Senegal.

Within the Senegalese law enforcement field, the biometric visa reflected a pre-eminence of its top strata. This visa was largely a prestige technology, targeted mainly at Western foreigners (citizens of ECOWAS countries do not need visas to enter Senegal) and other travellers who mainly transit via LSS airport in Dakar. The visa was not just a token of modernity but also facilitated the projection of a modern identity. My interlocutors at the top level of the police claimed, for instance, that stamp visas are outmoded and any country that takes its security seriously must have something more modern,[[23]](#footnote-23) without providing technical rationales. Dezalay and Garth (2002) capture this idea of a split within any given field in which one part is internationally oriented and seeking symbolic capital from abroad, and the other remains rooted in existing local or informal practices and oriented towards local gains. This is very much the case in Senegal, where the highest ranked officers tend to be invited to international border management workshops—internalizing the knowledge and habits of the transnational field—while others lower down the ranks remain confined to routines devoid of technology, away from the capital, and disconnected from the world of policy.

The elimination of the biometric visa requirement in May 2015 testified to the limits of the biometric ideal when faced with divergences in police practice but also to limits exogenous to the world of security. The suppression of the visa in May 2015, amidst complaints from the country’s tourism sector, hard hit by international fears following the Ebola outbreak in the region, highlighted how the biometric ideal may not always guarantee frictionless mobility: knowledge in the name of security was pushed aside in favour of a greater facilitation of leisure travel. This undermines the idea of biometrics as a facilitator of mobility—in fact, at the same time as the removal of the visa Senegal’s airport taxes were also reduced (Jeune Afrique 2015) as part of a broader removal of financial obstacles to visiting Senegal. The visa had made the work of the border police at the airport confusing—they frequently faced confused travellers arriving without visas in hand—so the actual *functioning* of the visa, beyond its symbolic importance, was a source of consternation. By 2015, the arrivals area of Dakar’s LSS airport was littered with two material reminders of the failures of the biometric ideal: on one side sit the unplugged automated passport scanning gates provided by Iris Corporation as part of the 20-year biometric passport contract and abandoned when the SICM was installed, and on the other the visa application machines which had been provided for travellers who had—in defiance of the ideal of legible mobility—arrived in Senegal without one.

**Conclusion**

In this article, I have argued that biometric technologies—which link body and identification—have become increasingly widespread in the African context due to a biometric ‘ideal’ that security professionals put forward, promising enhanced legibility and modernity to states in the global south. Technologies such as Senegal’s biometric national identity cards, visas, passports, and entry/exit systems are increasingly digital, speedy, and interlinked but also subject to failure in their claims to effectively manage inclusion and exclusion at the border. I have argued that these various ‘promises’ of biometric technologies are held up by a transnational community of practice that includes security professionals from European and African fields of border management and law enforcement, bureaucrats in international organizations, and a host of competing private actors.

In allying this argument with original fieldwork in Senegal, this article has sought to make four main conceptual and empirical contributions. First, it has focused attention on the growing interweaving of Western and African security professionals around biometrics in Senegal. Such security cooperation, often through interior ministry attachés and police training projects, is the civilian face for a growing securitization of borders in West Africa. Second, the article has sought to highlight the diversity of actors involved in (in)security practices around biometrics in Senegal. These are not limited to global and local law enforcement officials, but also include private sector providers (who compete with each other as well as the state) as well as bureaucrats in charge of visa and tourism policy. Third, the article has shown that the biometric ‘ideal’ is just that — an ideal — and perhaps even a myth. While the article has shown that there is a tremendous deal of reputational and symbolic gain to be had from the ‘modernity’ of digital biometrics, these technologies’ claims to ‘smartness’ are often hollow. Finally, the article has showed the degree to which decisions about governing and controlling mobility are played out in expert proceedings and workshops, through the interaction of diverse technical — rather than political — debates about biometrics and their effectiveness. If we are to better understand the rapidly growing world of biometrics in West Africa, we must be attentive to the social world of security that produces its boldest claims and its biggest flaws.

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